| Question | Response |
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| Regarding foals:<br>How does a foal employ evaporative cooling with increased temperatures since horses can't use their respiratory system and pant. Foals are particularly at risk of overheating when their thermoregulatory systems are not well developed and they have less body mass.<br>Foals do not thermoregulate the same way as adults do. They can easily overheat. They need a cool place where they can lie down and sleep.<br>What's the impact of shade for newborns and foals under 6 months of age?<br>Why not shade for foals? | The UC Davis researchers wanted to clarify that they DID say that horses DO use respiratory evaporation, but not as much as sweating. As mentioned in the presentation, some horses pant. The smaller body mass of a foal is actually a benefit – smaller mass means less heat accumulation and greater surface area for dissipation. Research shows that very young foals are quite capable of sweating.<br><br>Observations by the UC Davis researchers indicate that the foals tended to stretch out and sleep in the sun on hot ground instead of in the available shade. |
| Would foals be considered "compromised" since they are not healthy, mature animals? | Foals are not automatically considered compromised without some other contributing factor. Because of their long, slim legs and small body size they don't retain body heat well in cold weather, which should be a benefit in hot weather. Newborn foals are susceptible to very cold weather but we are not aware of any susceptibilities specifically caused by hot weather. |
| If the ground gets hotter than the air, and there's no shade at PVC, where does the BLM expect the babies to lie down? Are they expected to stand ALL the time?<br><br>Ground temp of 164 does not affect the horses and burros? | Yes, soil temperature increases considerably with high solar radiation. Horses' hooves have a very small surface area for conducting heat from the soil to their bodies. We have not identified any research on horses concerning how much heat is conducted through their hooves, but the amount is probably limited. |
| Do foals require more lying time than healthy adults? What about sick or distressed horses? | Foals do yes. |
| Mortality rates:<br>Why are births and deaths of foals not recorded?<br>Foals need to be counted for, there a living animal.<br>What is the mortality rate at the facility? How does it compare to | BLM has drafted a policy that is in the review process. Once the review process is complete, the BLM will announce any changes that may occur.<br>The average mortality rate is +/-2%. This varies greatly based on condition of horses that are received. Per research by Dr. Stull and Holcomb, the domestic horse world has a 6% mortality rate. |

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| other facilities?<br>The natural die off rate is 2-3 animals per 1,000. Why is PVC above that?<br>Please explain why the BLM has not done any kind of necropsy on the 4 horses that died, to ensure that the other horses in the same pens don't die of the same thing? Is there any kind of plan for this in the future? | We're not sure what the question is asking. Please contact us at wildhorse@blm.gov to clarify.<br><br>From June 28 – July 17, we only had two horses that died of unknown causes; however, the PVC Vet and staff reported no signs of heat-related symptoms prior to the deaths. These animals had a continuous supply of water, quality hay, and sprinklers present; therefore, there was no life or death issue present. It is not always possible to make a determination of the cause of death. But, if the BLM has any future deaths at PVC that are not associated with a particular illness or injury, a necropsy will be performed. |
| Best care practices v. minimum standards:<br>If Kathy's research will and do use shade, then why not say that shade options should be a minimum standard, not best care?<br>I totally disagreed with the speaker. Shade and shelter are absolutely a minimum standard. Humane horse guardians know that horses and burros seek and use shade. Would a dog without shade be acceptable to the speaker?<br>Adopt Carolyn Stull's "Standards of Care for Horses in California" for BLM holding centers<br>If shade is only a best care standard, not a minimum standard, why are adoptees required to provide it?<br>BLM adoption facilities should be models of excellence in providing optimal care. | It may be helpful to remember that equines evolved on and are adapted to open plains. By definition that means there were few trees or terrain that might provide shade. |
| Economics:<br>One day of roundup = cost of shelter. Why does BLM need to go to corporations or the public for funding?<br>How much money is allocated for horse management by BLM? (Not money for BLM jobs.) | The BLM did not go to any corporations for funding; however, BLM has received notification from outside sources that they may want to donate funding towards the cooling and shade issue.<br><br>For FY12, which ended Sep 30, 2012, the BLM spent over 80% of its $74.9 million budget on horse management. Out of the 80%, 59% was spent on holding costs for the animals.<br><br>In 2012, the BLM spent 59%, not 70%, on holding costs for the animals. The BLM's overall 2013 budget was less than 2012, but |

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| If BLM can spend the enormous (over 70%) budget warehousing horses, they can include shade and shelter. | holding costs will remain the same or higher. |
| Shade Research:<br>Any thought of conducting shade research on non-domesticated horses at the CA facility that already has a shade structure? (Is it Ridgecrest?)<br><br>Any thought of using PVC for shade research as to healthy, mature animals?<br><br>Where was food and water in relation to the preference study? | UC Davis Researchers, Dr. Stull and Holcomb agree it would be possible (and interesting!) to do behavior observations to quantify how much they utilize the shade and under what weather conditions. Their research on domestic horses also included many measurements that are only possible with horses that can easily be handled (drawing blood samples, taking rectal and skin temperatures, etc.).<br><br>On Aug 26, the BLM announced that they will be testing out 3 different shade options at the PVC facility for two months. We hope to gather some research data during the trial period.<br><br>Food and water were provided equally in sun and shade to prevent location bias. |
| Did BLM pay these experts who've never studied wild horses? | The BLM has a partnership with UC Davis that provides scientific input and assistance to our developing comprehensive animal welfare plan. |
| Was the idea of "no shade" for healthy mature animals a research recommendation? (Not clear as to whether this was a recommendation) | Given their observations, weather conditions, and water availability: Healthy, mature horses with adequate feed and water and a BCS greater than 3 do not require shade at this facility.<br><br>Their recommendation was: Treatment pens should be designed to include overhead structures that provide shade to 50% of the pen, preferably including the feeding area<br>• This will assist horses with compromised health conditions to minimize energy expenditure for thermoregulation in hot weather as well as in cold or wet weather |
| Temperature:<br>Were the temperature statistics (in chart) from this year? Or average temps?<br><br>Are you aware of the DVM study showing using spraying water to cool a horse is ineffective?<br><br>Dark-colored horses absorb more heat. It not just the heat, horses with substantial areas of white coat | You can review the presentation at Welfare: Standards and Practices and see that they referred to local temperatures for this year.<br><br>That study showed evaporative cooling is more effective for horses after strenuous exercise if the water can be scraped off and reapplied repeatedly. It did not say water is ineffective.<br><br>There is research to support differences in cattle based on coat color. Skin color and hair color have different effects, since the black skin color of the Arabian breed of horses is said to protect them from UV rays of the sun and limit heat absorption, while |

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| experience sunburn.<br>Does the color of the horse have any relevance to preferences of shade and sun? | light hair color is believed to reflect solar rays. In our research we did not have enough horses of different colors to perform a statistical analysis on coat color and its relation to shade use. They did not observe evidence of sunburn on the horses at PVC.<br><br>Note: The photo of the white horse that was thought to be sunburned by the public was not a sunburn. This was a common allergic reaction to the feed. The horse has been treated and is recovering. |
| PVC operations:<br>How is water supplied during the winter, with freezing temperatures and sub-zero weather? Does the water freeze?<br>At UC Davis, there are 3 horses per ¼ acre. How many horses per ¼ acre at PVC? | Water is supplied through a float system. Water temp is warm so possibility of pipes freezing is minimal. Ice does form in the troughs and is cleaned out daily.<br><br>The answer will vary based on time of year, but the average space per animal is a minimum of 1200 sq ft/horse in the larger pens where the majority of the horses are kept. Each of the larger pens are an average of 4 acres in size. |
| Why aren't there enough water troughs so they don't dehydrate? UC Davis Vet quote on her power point demonstration | PVC has automatic waterers in the pens and they are supported by 2 wells. When fresh horses arrive into PVC, additional troughs are placed in the pens with electrolytes to ensure they are hydrated until they become familiar with the automatic waterers.<br>The UC Davis presenters are not veterinarians. They are researchers of animal welfare. During their independent observations on July 29, they did not observe any crowding or fighting around water troughs that would indicate extreme thirst or dehydration, and they did notice any signs that any horse was dehydrated. |
| The BLM is holding an election for 3 positions on the Board of Directors for the BLM. Is it possible to have a person on the board who can represent the people? | On July 3, 2013, the Bureau of Land Management announced it was requesting public nominations to fill three positions on its national Wild Horse and Burro Advisory Board. Nominations are for a term of three years and are needed to represent the following categories of interest: wild horse and burro research, natural resource management, and **public interest (with special knowledge of equine behavior)**. Nominations that were accepted by August 16, 2013, are being considered for appointment. To learn more about the Advisory Board, please visit:<br>http://www.blm.gov/wo/st/en/prog/whbprogram/Advisory_Board.html |
| Joan, You stated that is workshop was formed because you thought it would be a good idea for solutions. Did the catalyst have anything to do | BLM continues to improve on transparency and work proactively with the public. This issue reached national attention at a national facility; therefore, it was decided to try a new collaborative approach to resolve the issue. The addition of the |

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| with public outcry, phone calls, e-mails, petitions or pictures of deceased horses? Or ground temperatures of 164 degrees?<br><br>Will BLM consider using methods of communicating like this in the future? This is a much better and less antagonistic way of conversing. | webinar expanded the opportunity for us to engage with the public. We appreciate the public's participation and felt it was a productive session. |
| How does a body score of 5 for domestic horses compare with a body score of 3 for wild horses? | The body condition scoring system used by BLM is that described by the late Dr. Don Henneke (Equine Veterinary Journal 1983). The only modification of the system is that BLM usually uses only a visual examination of ungentled animals because of their wild nature. The descriptions of each score are the same for domestic and wild horses, a 3 is a 3, a 5 is a 5. What does vary between horse breeds and disciplines are what are considered ideal and typical body conditions. For example a racehorse in good condition usually has a body condition between a 3.75 and a 4.25, a domestic broodmare in good condition usually has a body condition of about 5 depending on her stage of gestation and lactation. Show horses in good condition often have a body condition of 5 to 6, but that would probably be considered too fat for a racehorse.<br><br>Mustangs in good condition are usually between a 3.75 and a 5.5. This depends on many factors including the "type" of horse (ie. draft breed influence vs. small light breed influence), the time of year, lactation status etc. A lactating mare in late spring will often have a body condition of 3, but hopefully by fall will have a body condition of 4.75 or 5. In some parts of the country body condition changes dramatically with the seasons, but in other areas like the southern deserts horse condition might be more consistent and also consistently lower than high desert or mountain areas.<br><br>Scoring burros can be a challenge. Burros tend to be more angular, narrow and hips naturally appear to be abnormally thin even when in good condition. On the top end of the scoring, an obese burro can actually have a big roll of fat down the neck line, that if big enough will appear to slough off to one side. Typically the way burros are scored within the WH&B Program is to use the descriptions for each score in the same manner, then after a score is achieved add "+1". For example a burro (accentuated neck 3, withers not obviously thin 4, shoulder blends smoothly into body 5, showing ribs at times 4, peaked appearance along back 4, prominent tail head 3 = average of 3.8 + 1 = 4.8 for this |

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| | burro) might look thinner but still be in good condition due to its conformation. |
| Are there options for getting orchard feed and/or grass for different BLM holding centers? | The availability of orchard grass hay in the quantities that would be required for facilities is non-existent. There are not enough producers of that type of feed because it is not as profitable as other crops based on the demand. In looking for other feed options in Nevada, grass of grain hay types are few and far between. There are very few people in Utah that grow it and if they do it is mixed in with another crop like alfalfa and is grown for a certain clientele, not on the large scale. We are not aware of anyone that grows it in Nebraska. |
| What was the wild horse and burro population in 1971? What is it now – 42 years later? There has to be a limit for wild populations.<br><br>Who determines what the genetic viability threshold is for the WHB population? Does the public have any say in determining this number? | The current on-the-range population of wild horses and burros (approximately 40,600) is greater than the number found roaming in 1971 (about 25,300). The BLM is seeking to achieve the appropriate management level of 26,500 wild horses and burros on Western public rangelands, or nearly 11,000 fewer than the current West-wide population. The BLM also actively monitors the genetics of each herd by sending genetic samples to Dr. Gus Cothran at Texas A&M University. Dr. Cothran furnishes the BLM a report on every sample with recommendations for specific herds. |